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Selection and Evaluation Guidelines for Clinical Education Settings in Athletic Training

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Objective: To develop and test standards and associated criteria for the selection and evaluation of a clinical education setting in athletic training.

Design and Setting: A previously validated set of 20 standards for physical therapy clinical education settings, the associated criteria, and 2 related evaluation forms were systematically judged, revised, and adapted through a survey process.

Subjects: Program directors, clinical instructors, and students involved with athletic training clinical education from 28 athletic training education programs approved by the National Athletic Trainers' Association or accredited by the Commission on Accreditation of Allied Health Education Programs.

Measurements: We tabulated respondents' critiques and ratings by type of respondent. Items were judged as to whether they were relevant, practical, and suggestive of high-quality clinical education settings.

Results: We accepted a final set of 12 standards and 31 associated criteria to measure these standards. The student form lists 23 criteria relevant to these accepted standards. The accepted standards include the following: learning environment, program planning, ethical standards, administrative support, and Setting Coordinator of Clinical Education.

Conclusions: The 12 standards, criteria, and related forms developed in this research project should be used as guidelines rather than as minimal requirements. They could be helpful in forming an impression not only about a particular clinical setting but also about the requirements of clinical education in general. Further research should include evaluating and comparing perceptions between sexes and among ethnic groups concerning their clinical education experiences. Also, standards and criteria for clinical instruction in athletic training should be systematically developed.

Key Words: standards, clinical instruction, self-assessment

The responsibility to provide quality clinical education experiences within athletic training education programs is increasing dramatically. Certainly the standards for athletic training education programs (from the Commission on Accreditation of Allied Health Education Programs [CAAHEP]) reflect increased accountability in this area. Availability of high-quality clinical education settings is vital to the profession of athletic training. Unfortunately, simply spending time in clinical education settings (ie, athletic training room, clinical affiliation site) does not ensure that students acquire clinical skills.[1] More often than not, these settings are selected somewhat at random for convenience, geographic location, and availability of ''slots'' for students. Perceptions and experiences of the clinical instructors and staff concerning learning, athletic training, and clinical education come into play as well. Previous work has focused on the teaching and learning involved in clinical education (and its many elements), not on the environmental, administrative, and personnel factors of a clinical education setting.[2,3] Currently, there is no widely accepted set of standards and measurement criteria for the evaluation and selection of clinical education settings in athletic training. Randomness should be reduced in the selection, use, and evaluation of athletic training clinical education settings.

The purpose of our research project was to develop and test standards (ie, degree or level of requirement, excellence, or attainment) and associated criteria (ie, items on which a judgment or decision can be based for the attainment of a standard), for the selection and evaluation of a clinic-based, college or university, or high school clinical education setting in athletic training. Two related evaluation forms—a form for self-assessment of an athletic training clinical education setting (self-assessment form) and a form for the student's evaluation of a clinical education setting (student form)—were developed based on the proposed standards.

METHODS

Respondents

All directors of athletic training education programs approved by the National Athletic Trainers' Association (NATA) or accredited by CAAHEP (list provided by NATA Joint Review Committee on Athletic Training, fall 1998) were solicited to participate in this research project (n = 93). Although 64 program directors initially agreed to participate, 28 programs completed all requirements of the research project, a completion rate that was remarkable considering the number of respondents involved at each institution and the length and detail

Table 1. Responding Programs by National Athletic Trainers' Association District

District	No. Responding Programs
1	4
2	7
3	2
4	8
5	0
6	1
7	1
8	0
9	5
10	0

of the self-assessment form. The number of responding programs ranged from 1 to 8 in 7 of the 10 NATA districts (Table 1). The following individuals reviewed the standards and used 1 of the related forms (self-assessment form or student form) to evaluate a clinical education setting:

- The program director of the academic institution (n = 28)
- One student athletic trainer with a minimum of 1 year of clinical education experience in the academic institution's athletic training education program, representing a particular setting (college or university, n = 22 students; clinic based, n = 6 students; high school, n = 18 students)
- The head athletic trainer (or designee) in the athletic training room at the academic institution (n = 22)
- The clinical instructor or coordinator representing a clinic-based affiliation (eg, sports medicine center) with the academic institution (n = 12)
- The clinical instructor representing a high school affiliation with the academic institution (n = 5)

Instrumentation

A previously validated set of 20 standards for physical therapy clinical education settings,[2,3] the associated criteria, and 2 related evaluation forms[2] (the self-assessment form and the student form) were revised and adapted for this research project. Executive council members of the NATA Education Council served as an expert panel of judges and initially reviewed these standards and forms for overall usefulness and content validity. With this input, we carefully judged the original 20 standards and their criteria for relevance and practicality and determined which standards might suggest high-quality clinical education settings. The resulting self-assessment form (22 pages) listed 17 standards, with 2 to 11 criteria for each standard (Table 2). Interpretation of each standard appeared on the form along with the corresponding standard. Using a Likert scale (1 = very insignificant, 5 = very significant), respondents were asked to rate the significance of each standard and each standard's associated criteria. Respondents were also asked to indicate how long the self-assessment form took to complete. The corresponding student form[3] (7 pages) was also reviewed and revised. This form listed 30 criteria relevant to the 17 standards (Table 3). This form would provide information about the strengths and weaknesses of the clinical education experience to the site coordinator of the particular setting and the program director of the affiliating educational program. It was prepared with the student perspective in mind. Using a Likert scale, student respondents were asked to rate the overall clarity (1 = not clear, 5 = very clear), applicability (1 = not applicable, 5 = very applicable), and helpfulness (1 = not useful, 5 = very useful).

Table 2. Sample Standard and Criteria from the Self-Assessment Form

Standard 2

Clinical education programs for students are planned to meet specific objectives of the educational program, the athletic training service, and the individual student. Planning for students should take place in meetings among the Setting Coordinator of Clinical Education (SCCE), the Clinical Instructors (CIs), and the Academic Coordinator of Clinical Education (ACCE). The clinical education objectives should be used in planning learning experiences. The staff in the clinical setting should be prepared to modify particular learning experiences to meet individual student needs, objectives, and interests. A thorough orientation to the clinical education program and the personnel of the clinical setting should be planned for the student. Evaluation of student performance is an integral part of the learning plan. Opportunities for discussion and feedback about strengths and weaknesses should be scheduled on an ongoing basis.

Criteria	Yes	No
2.a) Have the Academic Coordinator of Clinical Education (ACCE), the Setting Coordinator of Clinical Education (SCCE), and the Clinical Instructors (CIs) all been involved in the preparation of objectives for clinical education?	____	____
2.b) Is the clinical education setting flexible enough to accommodate:		
1) the student's objectives?	____	____
2) students at different levels?	____	____
3) the educational program's objectives for specific experiences	____	____
2.c) Are all members of the staff who will be involved with clinical education familiar with educational program's objectives for the curriculum and for clinical education?	____	____
2.d) Do you have organized procedures for orientation of students?	____	____
2.e) Does the Setting Coordinator of Clinical Education (SCCE) or the Clinical Instructor (CI) discuss with the student his/her objectives for this experience prior to finalizing the specific learning experiences?	____	____
2.f) What methods are used by Clinical Instructors (CIs) for student feedback?	____	____

Procedures

The research project was approved by the University Institutional Review Board. Program directors were mailed a recruitment letter that explained the purpose, benefits, and responsibility of participating in the research project. Follow-up recruitment to nonrespondents occurred through both written letters and electronic mail messages.

Program directors who initially consented to participate in this research project were mailed a packet containing the following items and instructions for each:

Table 3. Sample Criteria from Student Form

1. Please indicate the helpfulness of the opportunities made available to you prior to your clinical education experience.

	Not available/ not helpful	Not available/ would be helpful	Available/ little help	Available/ helpful	NA
a) patients/athletes served	____	____	____	____	____
b) rules, regulations, and procedures	____	____	____	____	____
c) objectives	____	____	____	____	____
d) schedule	____	____	____	____	____
e) dress code	____	____	____	____	____
f) time required	____	____	____	____	____
g) clinical setting's objectives	____	____	____	____	____
h) ethical standards of practice	____	____	____	____	____
i) organization chart	____	____	____	____	____

	Yes	No
2. Were you given adequate orientation to individual patients/athletes and your responsibilites to these people?	____	____
3. Did you have a clear understanding of what was expected of you?	____	____
4. Were your objectives for clinical education considered in planning your learning experiences?	____	____

5. Did you feel that the learning experiences at this setting were

____ Routine for every student ____ Modified for each student

- A cover letter stating that participation was voluntary and explaining the purpose and benefit of, need for, and responsibility in coordinating the research project (eg, distribution and collection of completed materials)
- Self-assessment of an athletic training clinical education setting (self-assessment forms) to be completed by the university head athletic trainer, high school athletic trainer, clinic-based athletic trainer, and academic institution's program director
- Students' evaluations of clinical education experiences (student forms) to be completed by a student athletic trainer (minimum of 1 year of clinical experience in the program) who has completed clinical experiences in both the university-based athletic training room and in a clinic-based affiliation (a different student to complete 1 form for each setting)
- Self-addressed, postage-paid return envelopes

Respondents completed, rated, and critiqued the forms appropriate for them. Ratings and critiques of the forms were collected from all respondents through rating scores and written comments. As needed, follow-up telephone interviews were completed with program directors, clinical instructors, and students to obtain clarification or additional information. Ongoing reminders to the respondents and follow-up to nonrespondents occurred through both written letters and electronic mail messages.

Ratings regarding ''significance'' on the standards and criteria (self-assessment form) were tabulated by type of respondent (eg, program director, high school athletic trainer, college or university athletic trainer). Comments about the self-assessment forms (written and telephone interviews) were compiled and carefully considered. With this input, we judged each standard as to whether it was relevant, practical, and suggestive of high-quality clinical education settings. A final set of standards and criteria and the related self-assessment form for an athletic training clinical education setting were developed. Clarity, applicability, and helpfulness ratings from the student forms were tabulated by type of student respondent (college or university setting, high school setting, clinic-based setting). Clarity, applicability, and helpfulness items that were consistently rated (at least 80% of respondents across all settings) with a 4 or a 5 were judged as an indication that the form was appropriate. Comments about the student forms (written comments and comments from telephone interviews) were compiled and carefully considered. A final student's evaluation of a clinical education setting (student form) was developed.

RESULTS

We attempted to reflect the information obtained through a variety of approaches[4] in the final set of standards and criteria and forms. With the initial feedback from the NATA Education

Table 4. Results from the Self-Assessment Form

Standard*	Respondents Indicating Significant or Very Significant†, % (No.)			Criteria Items‡			Representative Comments
	Clinic Based	College or University	High School	Accepted	Revised	Deleted	
Accepted							
Learning environment	60 (5)	95 (22)	82 (11)	X		X	Promotes professionalism and dedication
Program planning	75 (4)	95 (21)	83 (12)	X	X	X	Extremely important, vital to learning
Learning experiences	100 (5)	100 (22)	92 (12)	X	X		Necessary for entry-level preparation
Ethical standards	80 (5)	91 (22)	92 (12)	X	X	X	Students need to be aware of boundaries
Administrative support	100 (4)	95 (20)	64 (11)	X	X	X	Support is very important
Effective communications	80 (5)	95 (20)	75 (12)	X	X	X	Communication is paramount
Staff number	100 (5)	100 (22)	92 (12)	X			Keep ratio low for student benefit
Setting Coordinator of Clinical Education	80 (5)	85 (22)	84 (12)	X		X	If setting is organized, students will benefit
Clinical Instructor selection	80 (5)	95 (21)	92 (12)	X	X		Personal characteristics are important
Principles of teaching and learning	80 (5)	91 (22)	73 (11)	X	X	X	CIs§ need to know what is expected
Professional associations	100 (5)	91 (22)	75 (12)	X			Policy does not guarantee compliance
Adequate space	100 (4)	86 (21)	67 (12)	X		X	Valuable but not vital
Rejected							
Affirmative action	100 (5)	86 (21)	100 (12)				Sensitive topic; importance for clinical education?
Compatible philosophy and objectives	60 (5)	82 (22)	84 (12)				Policy may be waste of time
Internal evaluation	80 (5)	86 (22)	67 (12)				External evaluation is best
Consumer satisfaction	100 (5)	86 (21)	75 (12)				Consumers have different expectations
Professional development	60 (5)	68 (22)	58 (12)				Unrealistic in most settings

*All standards meet CAAHEP standards and guidelines. All accepted standards were judged to be relevant, practical, and suggestive of high-quality clinical education settings.
†% of n for each group.
‡One or more criteria under the designated standard were accepted, revised, or deleted from the original version of the standards and criteria. Classification of criteria does not apply to rejected standards.
§CI indicates Clinical Instructor.

Council and input from the respondents (ie, program directors, high school athletic trainers, college or university athletic trainers, clinic-based athletic trainers) provided through ratings and critiques, we carefully judged the 17 standards and their criteria for relevance, practicality, and suggestiveness (ie, which standards might suggest high-quality clinical education settings). We also felt that it was important that the accepted standards be consistent with the existing CAAHEP accreditation standards and guidelines (as of 1999). The set of standards and their associated criteria should also be appropriate for all settings (college or university, high school, and clinic based).

Because respondents frequently commented that the self-assessment form took too long to complete (average completion time was 90 minutes), we were sensitive to reducing the number of standards and associated criteria. In this process, those standards that were considered redundant were eliminated. Based on these requirements (Table 4), we accepted a final set of 12 standards (Table 5) and 31 associated criteria (decreasing the total number of items from 59 to 31). Based on the same requirements (Table 4), 5 of the standards (Table 6) were rejected. The revised self-assessment form is 14 pages and takes approximately 45 minutes to complete. With the input provided by student ratings and comments regarding clarity, applicability, and helpfulness (Table 7), the corresponding student form was also reviewed. This form now lists 23 criteria relevant to the 12 accepted standards. The revised student form is 4 pages, takes approximately 15 minutes to complete, and is appropriate for use by students in all settings (college or university, high school, and clinic based).

Table 5. Accepted Standards for a Clinical Education Setting in Athletic Training

1. The clinical education setting provides an active, stimulating environment appropriate for the learning needs of the student. (Learning environment)
2. Clinical education programs for students are planned to meet specific objectives of the educational program and the individual student. (Program planning)
3. The clinical education setting has a variety of learning experiences available to students. (Learning experiences)
4. The Clinical Instructors practice ethically and legally. (Ethical standards)
5. The clinical education setting demonstrates administrative interest in and support of athletic training clinical education. (Administrative support)
6. Communications within the clinical education setting are effective and positive. (Effective communications)
7. The Clinical Instructors are adequate in number to provide a good educational program for students. (Staff number)
8. One Clinical Instructor with specific qualifications is responsible for coordinating the assignments and activities of the students at the clinical setting. (Setting Coordinator of Clinical Education)
9. Clinical Instructors are selected based on specific criteria. (Clinical Instructor selection)
10. Clinical Instructors apply the basic principles of education—teaching and learning—to clinical education. (Principles of teaching and learning)
11. The Clinical Instructors are interested and active in professional associations related to athletic training. (Professional associations)
12. Adequate space for study, conference, and treating athletes/patients is available to students. (Adequate space)

Table 6. Rejected Standards for a Clinical Education Setting in Athletic Training

1. The clinical education setting is committed to the principle of equal opportunity and affirmative action as required by federal legislation. (Affirmative action)
2. The clinical education setting's philosophy and its objectives for patient care and clinical education are compatible with those of the educational institution. (Compatible philosophy and objectives)
3. The clinic/athletic training staff has an active and viable process of internal evaluation of its own affairs and is receptive to procedures of review and audit approved by appropriate external agencies. (Internal evaluation)
4. The various consumers are satisfied that their needs for athletic training services have been met. (Consumer satisfaction)
5. There is an active professional development program. (Professional development)

Table 7. Results From the Student Form

Setting	Students Indicating Clear or Very Clear, % (No.)	Students Indicating Applicable or Very Applicable, % (No.)	Students Indicating Helpful or Very Helpful, % (No.)
Clinic based	100 (4)	75 (3)	100 (4)
College or university	78.3 (18)	73.9 (17)	69.6 (16)
High school	86.7 (13)	73.3 (13)	86.7 (13)

DISCUSSION

The 12 standards and criteria and related forms developed in this research are considered relevant, practical, and suggestive of high-quality clinical education settings (college or university, high school, and clinic based) in athletic training. All of these standards are consistent with the intents of the CAAHEP accreditation guidelines. Similar to the recommendations of Barr et al[2] for physical therapy settings, we recommend that the standards and criteria developed in this research project be used as guidelines rather than as minimal requirements. They could be helpful in forming and shaping an impression, not only about a particular clinical setting, but also about the requirements of clinical education in general. Descriptions and comments about these accepted standards follow.

In agreement with Barr et al,[2] we think the program director or another athletic training faculty member at each institution should serve as the Academic Coordinator of Clinical Education (ACCE). The duties of the ACCE could be defined as developing, implementing, and evaluating athletic training clinical education experiences. Further, one individual should serve as the Setting Coordinator of Clinical Education (SCCE). This person is employed in the clinical setting (eg, college or university, high school, or clinic-based facility) and coordinates clinical experiences in accordance with the clinical education objectives determined by the ACCE. Because the relationship between the ACCE and the SCCE must be close, one staff member needs to be the key person for coordinating the clinical education program at a particular setting. The SCCE needs to be proficient as a clinician, experienced in clinical education, and interested in students. Further, the SCCE should have good interpersonal relationship and organizational skills and be knowledgeable about the facility and its resources.

The integration of classroom knowledge into the world of practice requires a team approach that includes the academic faculty, ACCE, SCCE, Clinical Instructors, and students. This approach must be intentional, with all team members aware of their roles in the process and cognizant of the interactions necessary to accomplish the goals of clinical education.[1] The desirable learning environment in the clinical education setting should be characterized by good management, high staff morale, harmonious working relationships, and sound interdisciplinary athlete or patient management procedures. Less tangible characteristics may be personnel receptiveness, a variety of expertise, interest in newer techniques, and involvement with other professionals outside of athletic training.

Planning for students should take place in meetings among the ACCE, the SCCE, and the Clinical Instructors. The clinical education objectives should be used in planning learning experiences. The Clinical Instructors in the clinical setting should be prepared to modify particular learning experiences to meet individual student needs, objectives, and interests. A thorough orientation to the clinical education program and the personnel of the clinical setting should be planned for the student. Evaluation of student performance is an integral part of the learning plan. Opportunities for discussing and providing feedback about strengths and weaknesses should be scheduled on an ongoing basis.

Students in clinical education are primarily concerned with learning and practicing clinical skills. Therefore, the setting must have an adequate variety and number of patients along with adequate equipment and resources. The range of experiences with patients and athletes should include screening, evaluating, planning, treating, providing follow-up care, and reporting.

All staff members should be practicing ethically and legally as outlined by their code of ethics, the state standards of practice, the state practice act, and the clinic or athletic training program policy. The policy should include statements on patients' rights, release of confidential information, photographic permission, clinical research, and procedures for reporting unethical, illegal, or incompetent practice. All standards of practice should be documented in writing and available to the staff and the students.

Administrative support of clinical education should be demonstrated in the following ways: a statement of commitment to clinical education, release time for clinical education activities, and compensation of staff for attendance at professional and continuing education meetings pertaining to clinical education. Effective and positive communication within the clinical education setting can be demonstrated by administrative flow charts, regular staff meetings, and informal oral and nonverbal communications.

The student-staff ratio can vary according to the nature of the clinical education setting and the nature of the staff, the level and type of student, and the length of the student's assignment. The adequacy of numbers relates to the number of students accepted and the nature of the learning experience. Clinical Instructors should be interested in and willing to work with students. Barr et al[2] discussed the fact that the Clinical Instructor should be proficient as a clinician; normally, at least 1 year of experience should be a prerequisite. Personal characteristics of the Clinical Instructor should be considered, including enthusiasm, interpersonal relations, sensitivity to students, and receptiveness to suggestions. Clinical Instructors

should apply the basic principles of education—teaching and learning—to clinical education.

The clinic or athletic training program should have a policy of encouraging the staff's professional activities at the local, state, and national levels. Activities may include self-improvement activities, professional enhancement activities, professional activities relating to offices or committees, papers or speeches presented, and other special activities. The Clinical Instructor should provide students with information about professional meetings and encourage their participation.

Adequate space for studying, conferences, and treating athletes and patients should be available to students. Those items of particular concern to students are lockers for clothing and security of personal belongings, a resource area, a record or charting area, adequate space for athlete and patient-care activities, and a private area for counseling with Clinical Instructors or other staff members. Classrooms and conference space may be available and should be accessible for staff meetings, lectures, case conferences, and demonstration of activities.

Although the 12 standards accepted in this research project reflect the consensus of the investigators, the program directors, and the Clinical Instructors who participated in the project, the 5 standards that were not accepted still warrant attention. The clinical education setting should be committed to the principle of equal opportunity and affirmative action. This item is adequately represented in standard 4 (The staff practices ethically and legally). It is beyond the scope of an athletic training education program to evaluate and monitor the hiring practices of an employer. A setting's philosophy and its objectives for patient care certainly can give clinicians and staff in that setting a real sense of purpose and direction. A process for internal evaluation that is receptive to procedures of review and audit approved by appropriate external agencies is essential for patient and consumer protection. Clinical outcome studies verifying that consumers are satisfied that their needs have been met are an important component of this internal evaluation. An active professional development program certainly is essential for keeping clinicians and Clinical Instructors professionally and academically current. This item is adequately addressed in standard 5 (The clinical education setting demonstrates administrative interest in and support of athletic training clinical education) and in standard 11 (The Clinical Instructors are interested and active in professional associations related to athletic training).

The clinical segments of all health professions education are designed to prepare students to be sensitive and proficient practitioners of their respective disciplines. Although students may learn their responsibilities by observing athletic training role models who are experienced professionals, formal and consistent clinical education would help to ensure that all students are exposed to a comprehensive, uniform clinical experience in their profession.[5] A lack of formal emphasis on clinical education settings promotes haphazard and coincidental learning during students' clinical experiences. Instruction may not be consistent or available from 1 clinical setting to the next. Such disorder occurs because many athletic trainers have not realized the importance of the clinical education setting. The focus in clinical education settings must include educational standards and experiences designed to augment students' knowledge and to promote their professional maturity. The clinical setting provides validation of previously learned principles and concepts; moreover, clinical skills are learned and practiced in simulated environments. Ideal clinical experiences are closely relevant and timely to what is being taught in concurrent courses and allow continued reinforcement and practice of what has been learned. Such experiences are vital to a student's development of competence, self-confidence, and flexibility in unfamiliar situations.[6]

The standards and criteria developed in this research project for the selection and evaluation of clinical education settings should be used as guidelines to foster and augment effective athletic training clinical education. Further research should include evaluating and comparing perceptions between sexes and among ethnic groups concerning their clinical education experiences. Also, standards and criteria for clinical instruction in athletic training should be systematically developed. Examples of possible clinical instruction standards may include helpful teaching behaviors, teaching clinical skills, evaluating clinical skills, and learning clinical skills.

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